United Nations

# Report of the Committee on the Peaceful Uses of Outer Space

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**Supplement No. 20 (A/56/20)**

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# Report of the Committee on the Peaceful Uses of Outer Space

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# Chapter I
# Introduction

1. The Committee on the Peaceful Uses of Outer Space held its forty-fourth session in Vienna from 6 to 15 June 2001. The officers of the Committee were as follows:

*Chairman*:

Raimundo González (Chile)

*First Vice-Chairman*:

Driss El Hadani (Morocco)

*Second Vice-Chairman/Rapporteur*:

Harijono Djojodihardjo (Indonesia)

The unedited verbatim transcripts of the meetings of the Committee are contained in documents COPUOS/T.476-487.

## A. Meetings of subsidiary bodies

2. The Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space had held its thirty-eighth session in Vienna from 12 to 23 February 2001 under the chairmanship of Karl Doetsch (Canada). The report of the Subcommittee was before the Committee (A/AC.105/761).

3. The Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space had held its fortieth session in Vienna from 2 to 12 April 2001 under the chairmanship of Vladimír Kopal (Czech Republic). The report of the Subcommittee was before the Committee (A/AC.105/763 and Corr.1). The unedited verbatim transcripts of the meetings of the Subcommittee are contained in documents COPUOS/Legal/T.639-655.

## B. Adoption of the agenda

4. At its opening meeting, the Committee adopted the following agenda:

1. Adoption of the agenda.
2. Statement by the Chairman.
3. General exchange of views.
4. Ways and means of maintaining outer space for peaceful purposes.
5. Implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III).
6. Report of the Scientific and Technical Subcommittee on its thirty-eighth session.
7. Report of the Legal Subcommittee on its fortieth session.
8. Spin-off benefits of space technology: review of current status.
9. Enlargement of the membership of the Committee.
10. Other matters.
11. Report of the Committee to the General Assembly.

## C. Membership

5. In accordance with General Assembly resolutions 1472 A (XIV) of 12 December 1959, 1721 E (XVI) of 20 December 1961, 3182 (XXVIII) of 18 December 1973, 32/196 B of 20 December 1977, 35/16 of 3 November 1980 and 49/33 of 9 December 1994 and decision 45/315 of 11 December 1990, the Committee on the Peaceful Uses of Outer Space was composed of the following Member States: Albania, Argentina, Australia, Austria, Belgium, Benin, Brazil, Bulgaria, Burkina Faso, Cameroon, Canada, Chad, Chile, China, Colombia, Czech Republic, Ecuador, Egypt, France, Germany, Greece, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Italy, Japan, Kazakhstan, Kenya, Lebanon, Malaysia,[1] Mexico, Mongolia, Morocco, Netherlands, Nicaragua, Niger, Nigeria, Pakistan, Peru,[1] Philippines, Poland, Portugal, Romania, Russian Federation, Senegal, Sierra Leone, South Africa, Spain, Sudan, Sweden, Syrian Arab Republic, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America, Uruguay, Venezuela and Viet Nam.

## D. Attendance

6. Representatives of the following States members of the Committee attended the session: Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Burkina Faso, Canada, Chile, China, Colombia, Czech Republic, Ecuador, Egypt, France, Germany, Greece, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Italy, Japan, Kazakhstan, Kenya, Lebanon, Malaysia, Mexico, Morocco, Netherlands, Nigeria, Pakistan, Peru, Philippines, Poland, Portugal, Romania, Russian Federation, South Africa, Spain, Sudan, Sweden, Syrian Arab Republic, Turkey, Ukraine, United Kingdom, United States, Uruguay, Venezuela and Viet Nam.

7. At its 476th and 477th meetings, the Committee decided to invite, at their request, the representatives of Algeria, Angola, Costa Rica, Cuba, the Democratic People's Republic of Korea, the Holy See, the Libyan Arab Jamahiriya, Panama, the Republic of Korea, Saudi Arabia, Slovakia, Sri Lanka and Switzerland to attend its forty-fourth session and to address it, as appropriate, on the understanding that it would be without prejudice to further requests of that nature and that it would not involve any decision of the Committee concerning status.

8. A representative of the International Telecommunication Union (ITU) attended the session.

9. The session was also attended by representatives of the European Space Agency (ESA), the International Astronautical Federation (IAF), the International Law Association (ILA), the International Mobile Satellite Organization (IMSO) and the International Society for Photogrammetry and Remote Sensing (ISPRS).

10. A list of representatives of States members of the Committee, States not members of the Committee, specialized agencies and other organizations attending the session is contained in document A/AC.105/XLIV/INF/1.

## E. General statements

11. Statements were made by representatives of the following delegations during the general exchange of views: Argentina, Austria, Brazil, Canada, Chile, China, Colombia, Czech Republic, France, Germany, Hungary, India, Indonesia, Iran (Islamic Republic of), Italy, Japan, Malaysia, Nigeria, Pakistan, Peru, Philippines, Poland, Portugal, Russian Federation, South Africa, United Kingdom and United States. The representative of Peru also made a statement on behalf of the Group of Latin American and Caribbean States. The representative of the Republic of Korea also made a statement. Statements were made by the representatives of IAF and ISPRS.

12. At the 476th meeting, on 6 June, the Chairman made a statement outlining the work of the Committee at its current session in which he stressed that in order to assist in the process of globalization it was necessary to take measures favouring the globalization of solidarity.

13. Also at the 476th meeting, the Director of the Office for Outer Space Affairs made a statement reviewing the work of the Office during the previous year and the documentation before the Committee.

14. Some delegations reiterated their concern about the intentional re-entry of space debris in the waters of the Pacific Ocean. Those delegations expressed the view that such re-entry constituted a serious threat to human security and the economic activities of coastal States and threatened the marine environment and its natural resources.

15. The view was expressed that the recent re-entry of the Mir space station had been carried out in a controlled and successful manner. That delegation was of the view that steps had been taken to ensure the transparency of the re-entry process, among other things allowing the public to follow re-entry measures in real time, and expressed hope that such transparency would set an international precedent.

16. The view was expressed that, because of the growing number of cases in which parts of space objects had been found on the ground, the Office for Outer Space Affairs should provide information for advanced alert and localization of decaying space debris that could cause damage on the ground.

17. Some delegations expressed the view that mankind was facing serious challenges in the peaceful uses of outer space. Those delegations expressed the view that the utilization of outer space for military purposes had been showing an alarming rise and the trend towards the "weaponization" of outer space had been increasing, and that the Committee should make greater efforts to prevent further militarization of outer

space and take immediate action to step up work in formulating legal regulations on the matter.

### F. Symposium

18. In accordance with General Assembly resolution 55/122 of 8 December 2000, a symposium on the theme "The human dimension in space science and technology applications" was held on 11 June under the chairmanship of V. Cassapoglou (Greece).

19. Presentations to the symposium included the following: "Where are we and why? Exploring the universe with the Hubble Space Telescope", by R. Albrecht (European Southern Observatory); "The UNESCO World Commission on the Ethics of Scientific Knowledge and Technology (COMEST) report on the ethics of space policy", by A. Pompidou (COMEST); "Space telecoms to serve humans", by J. Jipguep (Cameroon); "Ethical aspects of the application of space data to natural disaster mitigation", by Lingli Tang (China); "Space and society: the Indian scenario", by G. M. Nair (India); "Preliminary thoughts on the human dimension in Brazilian space activities", by L. Fortes (Brazil); "Towards a space age humanism", by J. Arnould (France); and "Ethics and law for outer space activities", by V. Cassapoglou (Greece). A panel discussion was also held and concluding remarks were made by the Chairman.

### G. Adoption of the report of the Committee

20. After considering the various items before it, the Committee, at its 487th meeting, on 15 June 2001, adopted its report to the General Assembly containing the recommendations and decisions set out below.

## Chapter II
## Recommendations and decisions

### A. Ways and means of maintaining outer space for peaceful purposes

21. In accordance with paragraph 41 of General Assembly resolution 55/122, the Committee on the Peaceful Uses of Outer Space continued its consideration, as a matter of priority, of ways and means of maintaining outer space for peaceful purposes.

22. The Committee was of the view that the General Assembly, by requesting in resolution 55/122 that the Committee continue its consideration, as a matter of priority, of ways and means of maintaining outer space for peaceful purposes and report thereon to the Assembly at its fifty-sixth session, had expressed the concern of the international community about the need to promote international cooperation in the peaceful uses of outer space, taking into particular account the needs of developing countries. The Committee, through its work in the scientific, technical and legal fields, had a fundamental role to play in ensuring that outer space was maintained for peaceful purposes. Strengthening that role through new initiatives, in particular through speedy implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), could add a new dimension to its work.

23. The Committee agreed that it had responsibilities relating to strengthening the international basis for the peaceful exploration and uses of outer space, which could cover, among other things, the further development of international space law, including, as appropriate, the preparation of international agreements governing various practical peaceful applications of space science and technology. The Committee agreed that it also had an important role to play in promoting acceptance of the existing United Nations treaties on outer space.

24. The Committee agreed that beneficial uses of space such as strengthening communications infrastructure, disaster management, education, agriculture, environmental protection and natural resource management had enormous relevance for human development, in particular in developing countries, and that the wider adoption of such beneficial applications would strengthen the goal of maintaining outer space for peaceful purposes.

25. The Committee agreed that activities involving international cooperation, such as participation in international scientific campaigns, sharing of satellite data, providing educational and training assistance to other countries and building institutional capacity, should be further encouraged to enable outer space to be explored and used for peaceful purposes.

26. The view was expressed that the success of the Committee's efforts to revitalize its work was indicated by the growing relevance of its work to the international community, as shown by the steady increase over the past few years in the number of other intergovernmental organizations, as well as non-governmental organizations and private firms, that were seeking to participate in the Committee's work.

27. The view was expressed that the Committee had been created exclusively to promote international cooperation in the peaceful uses of outer space and that disarmament aspects of outer space were more appropriately dealt with in other forums, such as the First Committee of the General Assembly and the Conference on Disarmament.

28. Some delegations expressed the view that the Committee on the Peaceful Uses of Outer Space was a competent organ to consider all issues affecting the peaceful uses of outer space, including any militarization of outer space, which was contrary to international law, such as the Charter of the United Nations and the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (the "Outer Space Treaty", General Assembly resolution 2222 (XXI), annex) of 1967. Those delegations expressed the view that consideration of prevention of an arms race in outer space by the First Committee of the General Assembly and the Conference on Disarmament should not prevent the Committee on the Peaceful Uses of Outer Space from also considering related issues.

29. Some delegations expressed the view that there should be a practical mechanism for coordinating the work of the Committee on the Peaceful Uses of Outer Space and that of the Conference on Disarmament.

30. The view was expressed that, when considering ways and means to prevent militarization of outer space, discussion in the Committee should not consist only of statements by delegations, but should also include consideration of concrete proposals and the adoption of concrete actions.

31. The view was expressed that the most direct and effective way of maintaining outer space for peaceful purposes was the conclusion of one or more international agreements prohibiting the testing, deployment and use of any weapons, weapon systems or their components in outer space, the testing, deployment and use on the ground, in the sea and in the atmosphere of any weapons, weapon systems or components aimed at outer space warfare and the use of any object launched into outer space for the purpose of warfare. That delegation was of the view that consideration of the item entitled "Ways and means of maintaining outer space for peaceful purposes" in the Committee on the Peaceful Uses of Outer Space could naturally include the establishment of a legal regime to maintain outer space for peaceful purposes.

32. Some delegations expressed the view that a trend towards "weaponization" of outer space and towards an arms race in outer space was becoming more obvious.

33. Some delegations expressed the view that the placement of weapons in outer space was contrary to various resolutions of the General Assembly, including resolutions 55/32 of 20 November 2000 and 55/122, as well as the Treaty between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems. Those delegations expressed the view that the placement of weapons in outer space could undermine the global strategic balance, intensifying arms races on the ground, creating obstacles for established arms control and disarmament regimes and undermining mutual trust among countries.

34. The view was expressed that while some military utilization of outer space might be acceptable, for instance for purposes of promoting international security and monitoring compliance with arms control regimes, military uses for the purposes of confrontation and military superiority on Earth were not.

35. The view was expressed that international cooperation in the peaceful uses of outer space was hindered by non-peaceful utilization of space technology, for example the development of spy satellites and use of satellites to intercept communications such as telephone conversations and electronic mail (e-mail). That delegation was of the view that such activities were an invasion of privacy and that the technologies involved could be better used for, among other things, crime prevention and humanitarian purposes.

36. The view was expressed that, for commercial and political reasons, there was a trend towards increasing restrictions on the flow of information and technology. That delegation was of the view that the international

community should work to remove barriers to the free flow of scientific and technological information.

37. The Committee was provided with information on the International Conference on the Prevention of the Militarization of Outer Space, held in Moscow from 11 to 14 April 2001, which had discussed matters relating to preventing the militarization of outer space and methods for the peaceful exploration and use of outer space.

38. The Committee recommended that, at its forty-fifth session, in 2002, it should continue its consideration, on a priority basis, of the item on ways and means of maintaining outer space for peaceful purposes.

## B. Implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III)

39. In accordance with General Assembly resolution 55/122, the Committee considered an item on the implementation of the recommendations of UNISPACE III.

40. The Committee noted that the General Assembly, in its resolutions 54/68 of 6 December 1999 and 55/122, had urged all Governments, organs, organizations and programmes of the United Nations system as well as intergovernmental and non-governmental organizations and industries conducting space-related activities to take the necessary action for the effective implementation of the recommendations of UNISPACE III, in particular its resolution entitled "The Space Millennium: Vienna Declaration on Space and Human Development".[2]

41. The Committee noted that, in accordance with General Assembly resolution 55/122, the Scientific and Technical Subcommittee at its thirty-eighth session had convened the Working Group of the Whole, under the chairmanship of Muhammad Nasim Shah (Pakistan), to consider the implementation of the recommendations of UNISPACE III. The Committee noted that the Working Group of the Whole had made recommendations on the following: (a) a mechanism to implement the recommendations of UNISPACE III and modalities for the engagement of non-governmental entities; and (b) implementation of the plan of action of the Office for Outer Space Affairs to implement the recommendations of UNISPACE III.

42. The Committee noted that, in their joint statement, the representatives of African States at the forty-fourth session of the Committee had indicated that, although at present some African States were engaged in space exploration in the field of astronomy, there was a common commitment to the application of space science and technology by establishing and strengthening national and continent-wide mechanisms for the coordination of space activities for the promotion of sustainable development, taking into account the Millennium Africa Recovery Plan. Their commitment should lead to improvement in the management of natural resources and public health services, the broadening of access to and use of all means of electronic and digital communication and the enhancement of weather and climate forecasting, especially with a view to enhancing disaster management and land-use and land-cover applications. That commitment was also driving efforts to provide educational opportunities for the youth of African States to learn more about space science and technology so that they could participate in and contribute to space activities.

### Action taken by the Committee

43. The Committee endorsed the recommendations of the Working Group of the Whole concerning the implementation of the recommendations of UNISPACE III, as contained in its report (A/AC.105/761, annex II, paras. 3-14).

#### (a) Establishment of action teams

44. The Committee noted that, pursuant to a recommendation by the Working Group of the Whole, a survey had been conducted among Member States to identify the level of interest and priority for each action constituting the nucleus of a strategy contained in the Vienna Declaration to address global challenges in the future. The Committee had before it a note by the Secretariat (A/AC.105/L.234) and conference room papers (A/AC.105/2001/CRP.4 and Add.1) containing the results of the survey.

45. Some delegations expressed the view that, prior to identifying leaders and establishing action teams, a number of criteria should be established by the Committee.

46. The Committee held informal consultations among Member States led by the Chairman of the Scientific and Technical Subcommittee, Karl Doetsch (Canada), in order to reach agreement on the countries that would assume responsibility for leading teams to implement recommendations and for identifying members of those teams.

47. The Committee noted with satisfaction the comprehensive response to the survey that had been received from many Member States. The Committee agreed that the implementation of the recommendations of UNISPACE III could proceed in stages. In the first stage, the Committee would seek to implement recommendations that fell into the following two groups:

(a) *Group 1*. Those recommendations which were considered by Member States as of highest priority as indicated by the results of the survey;

(b) *Group 2*. Those recommendations for which there were States that had offered to be coordinators of action teams to implement recommendations.

48. The Committee recognized that there were two types of action recommended in the Vienna Declaration: (a) actions that Member States had a direct interest in pursuing through their national activities; and (b) actions that were related to strengthening the work of the Committee and of the United Nations, as well as coordination with other organizations of the United Nations system that could be undertaken under the leadership of the Office for Outer Space Affairs.

49. For each recommendation to be addressed by the Committee through action teams there would be an assessment phase and an implementation phase. During the assessment phase, the following actions should be undertaken by an open-ended action team consisting of interested countries: (a) examination of the current status; (b) definition of actions to be undertaken during the implementation phase; and (c) preparation of a possible work plan. The Committee agreed that during the assessment phase it would be important to identify third parties, including intergovernmental organizations, such as the organizations of the United Nations system, and non-governmental entities, that would have a strong interest in contributing to and participating in the implementation of the recommendations.

*Recommendations assigned highest priority*

50. The Committee identified the following as the recommendations that had been assigned highest priority by Member States:

*Recommendations assigned highest priority*[a]

1. Develop a comprehensive, worldwide environmental monitoring strategy

2. Improve the management of Earth's natural resources

7.[b] Implement an integrated, global system to manage natural disaster mitigation, relief and prevention efforts

10. Improve universal access to and compatibility of space-based navigation and positioning systems

11. Promote sustainable development by applying the results of space research

18. Increase awareness among decision makers and the general public of the importance of space activities

[a] Each recommendation is numbered as in the questionnaire circulated to Member States in a note verbale dated 13 March 2001. The questionnaire listed the recommendations in the order of their appearance in the Vienna Declaration.

[b] Recommendation 7 is dealt with in the second group (see para. 55 below).

51. The Committee agreed that, for the following recommendations, the countries indicated below should act as interim coordinators, who would exercise leadership in conducting the work associated with the recommendation concerned and coordinate the activities to be undertaken by participants of the team prior to the thirty-ninth session of the Scientific and Technical Subcommittee, in 2002:

| | |
|---|---|
| Recommendation 2 | India |
| Recommendation 11 | African States, under the leadership of Nigeria |
| Recommendation 18 | United States, with the active assistance of Austria |

52. The Committee agreed that consideration should be given to creating synergy between the work to be conducted by the team for recommendation 1 and the work of the team for recommendation 2, since many actions that would be taken to implement either of the two recommendations could be useful towards implementing the other recommendation. The Committee noted that the United States would assist the interim coordinators for those recommendations.

53. With regard to recommendations 1 and 10, the Committee noted that consultations were being held among interested countries to identify interim coordinators and that those consultations would be concluded in the period of one month following the end of the forty-fourth session of the Committee. The Committee agreed that in identifying interim coordinators, equitable regional representation should be borne in mind. With regard to recommendation 10, the Committee was of the view that the role of the interim coordinator could be played by those countries which were involved in the development of global navigation satellite systems. The Committee agreed that the Office for Outer Space Affairs would inform Member States which interim coordinators had been agreed upon as a result of the consultations.

54. India and the United States submitted short papers to the Committee describing types of activity that would be undertaken by the action teams for recommendations 2 and 18, respectively. The Committee agreed that the interim coordinators for recommendations 1, 10 and 11 would submit as soon as possible similar short papers for their respective recommendations. The Committee requested the Office for Outer Space Affairs to circulate those papers, once received, to Member States. The Committee also agreed that the work of the action teams for those recommendations could start as soon as the consultations were concluded (see para. 53 above).

*Recommendations for which an offer to be leader of the activity had been received*

55. The Committee noted that the offers to be leaders of the activities had been received for the following recommendations:

*Recommendations for which an offer to be leader of the activity had been received*[a]

| | | *Country* |
|---|---|---|
| 4. | Enhance weather and climate forecasting | Portugal |
| 6. | Improve public health services | Canada |
| 7. | Implement an integrated, global system to manage natural disaster mitigation, relief and prevention efforts | China (interim coordinator)<br>Canada (coordinator)<br>France (secretariat) |
| 14. | Improve the international coordination of activities related to near-Earth objects | United Kingdom |
| 17. | Enhance capacity-building by developing human and budgetary resources | Japan |
| 32. | Identify new and innovative sources of financing to support the implementation of the recommendations of UNISPACE III | France |

[a] Each recommendation is numbered as in the questionnaire circulated to Member States in note verbale dated 13 March 2001. The questionnaire listed the recommendations in the order of their appearance in the Vienna Declaration.

The Committee agreed that the countries indicated above would act as the interim coordinators for the recommendations concerned. The Committee also agreed that the work of the action teams for those recommendations could start as proposed by the respective countries.

56. The Committee noted that, pursuant to a proposal by the Working Group of the Whole of the Scientific and Technical Subcommittee at its thirty-eighth session, Member States had been invited to submit nominations for an expert group on the implementation of an integrated, space-based global natural disaster management system. The Committee had before it the list of experts nominated by Member States to the expert group (annex to A/AC.105/L.233 and Add.1-3). The Committee agreed that the expert group would be merged into the action team on recommendation 7.

*Schedule of work to be carried out between the forty-fourth session of the Committee and the thirty-ninth session of the Scientific and Technical Subcommittee*

57. The Committee requested the Office for Outer Space Affairs to compile a list of contacts in those countries acting as interim coordinators and participating in the action teams for the recommendations listed in paragraphs 50 and 55 above. The Committee also requested the Office to circulate the list to Member States and make it available on the web site of the Office, to be updated on a regular basis.

58. The Committee agreed that for each recommendation of group 1 (see para. 50), the interim coordinator would identify principal participants and reach consensus on who would be proposed to lead the team responsible for the recommendation. In cooperation with Member States that had expressed interest in participating, the interim coordinator would be responsible for preparing a work plan and defining principal products to be delivered by the team.

59. The Committee agreed that for each recommendation of group 2 (see para. 55), the interim coordinator would moderate those activities necessary to present the objectives, the preliminary results of the assessment and a detailed work plan, including the composition of the team and the products expected, at subsequent meetings of the Subcommittee and the Committee.

60. The Committee agreed to invite all Member States to identify the recommendations for which specific actions were not being undertaken through the procedure described above and to consider offering to lead action teams to implement recommendations on a priority basis for reasons of urgency, importance and the availability of resources to undertake the activity. The Committee also agreed that, for each recommendation, the action team should actively consider non-governmental entities that could be invited to participate in the teams.

61. The Committee requested the Office for Outer Space Affairs to inform the organizations of the United Nations system and intergovernmental and non-governmental organizations with observer status with the Committee of the work accomplished and the progress made in the establishment of action teams. The Committee also requested the Office to conduct the questionnaire survey among those organizations in order to identify the recommendations for which they wished to be members of the action teams.

*Schedule of work to be carried out during the thirty-ninth session of the Scientific and Technical Subcommittee*

62. The Committee requested the interim coordinators to report on the work conducted and submit work plans to the Scientific and Technical Subcommittee at its thirty-ninth session, in 2002, for its approval. The Committee agreed that the Subcommittee, at that session, should reach consensus on who would be the principal participants of the teams. The Committee also agreed that the Subcommittee should identify any other recommendations for which urgent actions were required and should agree on interim coordinators of the teams to be responsible for those recommendations.

### (b) Implementation of the plan of action of the Office for Outer Space Affairs and the Trust Fund for the United Nations Programme on Space Applications

63. The Committee noted that the General Assembly, in paragraph 29 of its resolution 55/122, had requested the Secretary-General to ensure the full implementation of the plan of action to implement the recommendations of UNISPACE III submitted by the Office for Outer Space Affairs with the necessary resources in 2002.

64. The Committee stressed the importance of the full implementation of the plan of action by the Office for Outer Space Affairs with the necessary resources in 2002 and expressed its hope that the General Assembly would take that fully into account.

65. The Committee noted that, pursuant to General Assembly resolution 54/68, the terms of reference of the Trust Fund for the United Nations Programme on Space Applications had been modified to include the implementation of the recommendations of UNISPACE III and that the Secretary-General had invited all States to contribute voluntarily to the Trust Fund and had identified in his letter of invitation priority project proposals, on the basis of recommendations of the Committee at its forty-third session.[3] The Committee had before it a note by the Secretariat (A/AC.105/L.231) submitted in response to a request by the Assembly in resolution 54/68 listing those States which had responded to the invitation by the Secretary-General.

66. The Committee noted the appeal by the Director of the Office for Outer Space Affairs and the Expert on Space Applications to Member States to consider contributions to the Trust Fund. The Committee urged all Member States that had not done so to consider contributing to the Trust Fund, in particular to support the projects and activities recommended by the Committee at its forty-third session.

## C. Report of the Scientific and Technical Subcommittee on its thirty-eighth session

67. The Committee took note with appreciation of the report of the Scientific and Technical Subcommittee on its thirty-eighth session (A/AC.105/761), covering the results of its deliberations on the items assigned to it by the General Assembly in resolution 55/122.

### 1. United Nations Programme on Space Applications following the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III)

#### (a) United Nations Programme on Space Applications

68. At the outset of the deliberations of the Committee on the item, the Expert on Space Applications briefed the Committee on the overall strategy for the implementation of the United Nations Programme on Space Applications, which would concentrate on a few themes of major importance for developing countries and establish objectives that could be reached in the short and medium term. The Committee noted that, within each priority theme, the two main objectives would be (a) capacity-building and (b) building awareness among decision makers in order to strengthen local support for the operational use of space technologies.

69. The Committee noted that the priority themes of the Programme were (a) disaster management; (b) satellite communications for tele-education and telemedicine applications; (c) monitoring and protection of the environment, including the prevention of infectious diseases; (d) management of natural resources; and (e) education and research areas in basic space sciences. Other areas that the Programme would promote included developing capability in enabling technologies, such as the use of global navigation and positioning satellite systems, spin-offs of space technology, promoting the participation of youth in space activities, applications of small satellites and microsatellites and promoting the participation of private industry in activities of the Programme. The Committee further noted that the activities of the Programme would support, where feasible, the action teams established by the Committee to implement the recommendations of UNISPACE III.

70. The Committee took note of the activities of the Programme carried out in 2000 as set out in the report of the Scientific and Technical Subcommittee (A/AC.105/761, paras. 36-42). The Committee expressed its appreciation to the Expert on Space Applications for the manner in which he had implemented the activities of the Programme within the limited funds at his disposal and expressed its appreciation to the Governments and intergovernmental and non-governmental organizations that had sponsored the activities. The Committee was pleased to note that further progress was being made in the implementation of the activities of the Programme for 2001, as set out in the report of the Subcommittee (A/AC.105/761, para. 43).

*(i) United Nations conferences, training courses and workshops*

71. With regard to the United Nations conferences, training courses and workshops organized in the first half of 2001, the Committee expressed its appreciation to:

(a) The Government of the Syrian Arab Republic, represented by the General Organization of Remote Sensing, for co-sponsoring the United Nations/European Space Agency/Committee on Space Research Workshop on Data Analysis Techniques, held in Damascus from 25 to 29 March 2001;

(b) The Government of Sweden, represented by the Swedish International Development Cooperation Agency, Stockholm University, Metria and the National Land Survey of Sweden for co-sponsoring the Eleventh United Nations/Sweden International Training Course on Remote Sensing Education for Educators, held in Stockholm and Kiruna, Sweden, from 2 May to 9 June 2001.

72. The Committee endorsed the following workshops, training courses, symposia and conferences planned for the remaining part of 2001, based on the programme of activities described in the report of the Expert on Space Applications (A/AC.105/750, annex II):

(a) Tenth United Nations/European Space Agency Workshop on Basic Space Science, to be held in Reduit, Mauritius, from 25 to 29 June 2001;

(b) United Nations/European Space Agency Workshop on Remote Sensing for Environmental Monitoring and Natural Resource Management, to be held in Prague in 2001;

(c) First United Nations/United States of America Workshop on the Use of Global Navigation Satellite Systems, to be held in Kuala Lumpur from 20 to 24 August 2001;

(d) United Nations Expert Meeting on the Regional Centres for Space Science and Technology Education: Status and Future Development, to be held in Frascati, Italy, from 3 to 7 September 2001;

(e) Second United Nations/Austria/European Space Agency Symposium on Enhancing the Participation of Youth in Space Activities: Implementing the Recommendations of UNISPACE III, to be held in Graz, Austria, from 17 to 20 September 2001;

(f) United Nations/International Astronautical Federation Workshop on Making Space Applications Operational: Opportunities and Challenges for Sustainable Development, to be held in Albi, France, from 27 to 29 September 2001;

(g) United Nations/International Academy of Astronautics Workshop on Small Satellites at the Service of Developing Countries: the African Perspective, to be held in Toulouse, France, on 2 October 2001, during the fifty-second International Astronautical Congress;

(h) United Nations/European Space Agency Workshop on the Use of Space Technology for Disaster Management, to be held in Beirut in the second half of 2001;

(i) Second United Nations/United States of America Workshop on the Use of Global Navigation Satellite Systems, to be held in Vienna from 26 to 30 November 2001;

(j) United Nations Workshop on the Use of Earth Observation as an Instrument for Solving Development Problems in Sub-Saharan Africa, to be held in southern Africa in the second half of 2001;

(k) The following workshops and training courses to be organized at the regional centres for space science and technology education, affiliated to the United Nations:

(i) In India:

a. International Short Course on Applications of Space Science and Technology for Social Scientists of the Asia-Pacific Region, to be held from 9 to 21 July 2001;

b. Short-Term Course on Remote Sensing and Geographic Information Systems Applications in Natural Resources and Environmental Management, to be held from 27 August to 7 September 2001;

(ii) In Morocco: Workshop on Satellite Meteorology, Remote Sensing and Geographic Information Systems, to be held in November 2001;

(iii) In Nigeria: Workshop on Satellite Meteorology and Remote Sensing, to be held in September 2001.

73. The Committee noted that in view of the reduced budget appropriation for the biennium 2000-2001 that had resulted from the decision taken by the General Assembly in its resolution 55/239 of 23 December 2000, the workshop referred to in paragraph 72 (h) might be postponed to 2002.

74. The Committee endorsed the following programme of workshops, training courses, symposia and conferences planned for 2002:

(a) Twelfth United Nations/Sweden International Training Course on Remote Sensing Education for Educators, to be held in Stockholm and Kiruna, Sweden, from May to June 2002;

(b) United Nations Workshop on Satellite-Aided Search and Rescue, to be held in Bangalore, India, from 18 to 22 March 2002;

(c) Third United Nations/United States of America Workshop on the Use of Global Navigation Satellite Systems, to be held in Santiago in April 2002;

(d) Eleventh United Nations/European Space Agency Workshop on Basic Space Science, to be held in Cordova, Argentina, in September 2002;

(e) Third United Nations/Austria/European Space Agency Symposium on Enhancing the Participation of Youth in Space Activities, to be held in Graz, Austria, in September 2002;

(f) United Nations/International Astronautical Federation Workshop on Achievements in Implementing the Recommendations of UNISPACE III, to be held in Houston, United States, in October 2002;

(g) United Nations/International Academy of Astronautics Workshop on Small Satellites at the Service of Developing Countries, to be held in Houston, United States, during the World Space Congress in October 2002;

(h) United Nations/European Space Agency Workshop on the Use of Space Technology for Disaster Management, to be held in the region of Asia and the Pacific in 2002;

(i) Fourth United Nations/United States of America Workshop on the Use of Global Navigation Satellite Systems, to be held in Africa in 2002;

(j) United Nations/United States of America Meeting of International Experts on the Use of Global Navigation Satellite Systems, to be held in Vienna in 2002;

(k) Several workshops to be organized at the regional centres for space science and technology education, affiliated to the United Nations.

75. The Committee noted with appreciation financial contributions of $3,000 from the Government of the Czech Republic, $110,000 from ESA and $25,000 from the Dobbins Foundation (United States) to implement the activities of the Programme in 2001, as well as $500,000 from the Government of the United States to implement activities in 2001 and 2002, as indicated in the note by the Secretariat of 3 April 2001 (A/AC.105/L.231). The Committee also noted with appreciation that the Government of France had offered to make a contribution of 150,000 French francs for activities relating to natural disasters in 2001.

76. The Committee noted with appreciation the provision, by host countries and entities, of experts to serve as instructors and speakers in activities of the United Nations Programme on Space Applications in 2001. It also noted the financial and other assistance that had been provided for the Programme by the Government of Austria, the Government of Styria and the City of Graz, Austria, the Centre national d'études spatiales of France and the Department of Physical Geography of Stockholm University, Metria and the National Land Survey of Sweden.

*(ii) Long-term fellowships for in-depth training*

77. The Committee expressed its appreciation to ESA for having offered five long-term fellowships for the period 2001-2002. The training programmes included one fellowship each in satellite communication systems, space antennas and electro-magnetics, and remote sensing instrumentation tenable at the European Space Technology Centre of ESA in Noordwijk, the Netherlands, and two fellowships for research in remote sensing technology tenable at the European Space Research Institute in Frascati, Italy.

78. The Committee noted that it was important to increase the opportunities for in-depth education in all areas of space science, technology and applications projects through long-term fellowships and urged Member States to make such opportunities available at their relevant institutions.

*(iii) Technical advisory services*

79. The Committee noted that the Programme had provided technical advisory services in support of projects involving regional space applications, as indicated in the report of the Expert on Space Applications (A/AC.105/750, paras. 19-28), including the following:

(a) Collaboration with ESA on follow-up activities in Africa, Asia and the Pacific, Latin America and the Caribbean and western Asia relating to the series of workshops on basic space science;

(b) Providing assistance to support the growth and operation of the Asia-Pacific Satellite Communications Council, as well as technical assistance in the preparations for the Council's 2002 conference and exhibition;

(c) Providing assistance to the Disaster Management Support Group of the Committee on Earth Observation Satellites (CEOS);

(d) Presenting the plan of action of the Office for Outer Space Affairs and the actions taken by the Committee and its Scientific and Technical Subcommittee to implement the recommendations of UNISPACE III to the fourteenth plenary meeting of CEOS, held in Rio de Janeiro, Brazil, from 8 to 10 November 2000, and offering to co-chair with the Indian Space Research Organization the ad hoc Working Group on Education of CEOS in 2001;

(e) Collaborating with ESA and the Department of Economic and Social Affairs of the Secretariat in providing the necessary technical assistance and expertise required for concluding a project on the use of Earth observation data for monitoring glaciers and snow cover in Latin America, continuing a project for watershed management in Asia and the Pacific and initiating a project in Africa on the use of satellite data to locate and plan the management of humid areas in 2001.

*(iv) Promotion of greater cooperation in space science and technology*

80. The Committee noted that the United Nations Programme on Space Applications had co-sponsored the participation of scientists from developing countries in the United Nations/International Astronautical Federation Workshop on an Operational Strategy for Sustainable Development Using Space, held in São José dos Campos, Brazil, in September 2000, and the participation of those scientists in the fifty-first International Astronautical Congress, held in Rio de Janeiro, Brazil, from 2 to 6 October 2000.

81. The Committee noted that the Programme had sponsored the participation of scientists from developing countries in the Sixth Workshop on International Space Cooperation organized by the American Institute of Aeronautics and Astronautics, held in Seville, Spain, from 11 to 15 March 2001.

82. The Committee noted that the Programme had sponsored the participation of scientists from developing countries in the nineteenth plenary meeting of the Latin American Society for Remote Sensing Specialists (SELPER), held in Puerto Iguazú, Argentina, from 6 to 10 November 2000.

83. The Committee noted that the Programme had sponsored the participation of scientists from developing countries in the Third Symposium of the African Association of Remote Sensing of the Environment, held in Cape Town, South Africa, from 27 to 31 March 2001.

84. The Committee noted that the Programme had co-sponsored the participation of scientists from developing countries in the Second Symposium on Microsatellite Applications for Asia and the Pacific, held in Beijing from 6 to 8 May 2001, and the participation of those scientists in the Economic and Social Commission for Asia and the Pacific Regional Working Group Meeting on Space Science and Technology, held in Beijing from 9 to 11 May 2001.

**(b) International space information service**

85. The Committee noted with satisfaction that the twelfth in the series of documents containing selected papers from the activities of the Programme, entitled *Seminars of the United Nations Programme on Space Applications*, had been issued.[4]

86. The Committee noted with satisfaction that a variety of information was being provided to Member States and the general public through the web site of the Office for Outer Space Affairs (http://www.oosa.unvienna.org). This included documentation relating to the Committee and its subcommittees, information on activities of the United Nations Programme on Space Applications, an index to the Register of Objects Launched into Outer Space, a searchable database of the status of the United Nations treaties on outer space and a list of space objects discovered by Member States on their territories. The Office was also integrating the International Aerospace Information Network into its web site, thereby facilitating access to aerospace and aerospace-related information of cooperating States. The Committee also noted with satisfaction that the Office had developed a web site on coordination of outer space activities within the United Nations system (http://www.uncosa.unvienna.org).

87. The Committee noted that an updated edition of the Directory on Education, Training, Research and Fellowship Opportunities in Space Science and Technology was in preparation and would be published in 2001. The Committee also noted that in response to requests made by the regional centres for space science and technology education, within the framework of the United Nations Programme on Space Applications, plans were being made to prepare and publish in 2001

a directory of experts in space science and technology. Both directories would also be made available on the web site of the Office.

**(c) Regional and interregional cooperation**

88. The Committee noted with appreciation the continuing efforts undertaken through the United Nations Programme on Space Applications, in accordance with General Assembly resolution 45/72 of 11 December 1990, in leading an international effort to establish and operate regional centres for space science and technology education in existing national or regional educational institutions in developing countries. The Committee also noted that, once established, each centre could expand and become part of a network that could cover specific programme elements in established institutions related to space science and technology in each region.

89. The Committee recalled that the General Assembly, in its resolution 50/27 of 6 December 1995, had endorsed the recommendation of the Committee that the centres be established on the basis of affiliation to the United Nations as early as possible and that such affiliation would provide the centres with the necessary recognition and would strengthen the possibilities of attracting donors and of establishing academic relationships with national and international space-related institutions.

90. The Committee noted with satisfaction that the first nine-month course on remote sensing and satellite meteorology had been completed in May 2001 and that the second nine-month course on remote sensing and satellite meteorology would be held from 1 October 2001 to 28 June 2002 at the African Regional Centre for Space Science and Technology Education—in English Language.

91. The Committee noted with satisfaction that the first nine-month course on remote sensing and geographic information systems (GIS) had been completed in February 2001 and that the nine-month course on space communication would be completed in August 2001 at the African Regional Centre for Space Science and Technology Education—in French Language. The Committee further noted with satisfaction that two nine-month courses—one on remote sensing and GIS and the other on satellite meteorology—were scheduled to begin in November 2001 at the Centre.

92. The Committee noted with satisfaction that the Centre for Space Science and Technology Education in Asia and the Pacific had held its sixth Governing Board Meeting and its third Advisory Committee Meeting in Dehra Dun, India, on 15 and 17 May 2001. The Committee also noted with satisfaction that the Centre had conducted the following postgraduate courses and workshops: (a) the second nine-month postgraduate course in satellite meteorology and global climate, from 1 July 2000 to 30 March 2001; (b) the second postgraduate course on basic space science, from 1 August 2000 to 30 April 2001; and (c) the fifth postgraduate course in remote sensing and GIS, from 1 October 2000 to 29 June 2001. A total of 285 persons from 39 countries had attended the postgraduate courses. The Committee further noted that the third nine-month postgraduate course on satellite communications would be held from 1 August 2001 to 30 April 2002 and the sixth nine-month postgraduate course on remote sensing and GIS from 1 October 2001 to 28 June 2002.

93. The view was expressed that the Centre for Space Science and Technology Education in Asia and the Pacific could definitely take the form of a network, consisting of nodes. All the nodes of the Centre should be legally equal and operate and function independently under the guidance of the Governing Board of the Centre. The secretariat of the Centre could be provided by the host Governments of nodes on the basis of rotation for a fixed period. Constituting the Centre as a network of nodes would correspond to the situation in the region and would be a feasible solution to the remaining problems of the Centre. The parties concerned should take a constructive and open approach in that regard.

94. The view was expressed that the only way to take up the question of establishment of nodes would be in the Governing Board of the Centre for Space Science and Technology Education in Asia and the Pacific.

95. The Committee noted with satisfaction that the headquarters agreement between the Regional Centre for Space Science and Technology Education in Latin America and the Caribbean and the Government of Brazil had been signed in Brasilia on 12 September 2000 and that the secretariat of the Centre was proceeding with the affiliation of the Centre to the United Nations.

96. The Committee noted with satisfaction that in 2000 the Office for Outer Space Affairs had announced that the Regional Centre for Space Science and Technology Education in Western Asia would be inaugurated in Jordan and had requested the Government of Jordan to prepare a draft agreement in connection with the establishment of the Centre, to be discussed, adopted and entered into by all countries in western Asia. The draft agreement would cover such issues as the goals, objectives and future directions of the Centre, including personnel and the structure of its governing board.

97. The Committee noted with satisfaction the report presented to the Scientific and Technical Subcommittee at its thirty-eighth session by the Chairman of the Steering Committee of the Network of Space Science and Technology Education and Research Institutions for Central Eastern and South-Eastern Europe on the activities of the Network in 2000. The Steering Committee had taken note of the proposed text of a draft inter-institutional agreement for the Network and that members of the Network had submitted proposals for projects that could be implemented by it.

98. The Committee noted with satisfaction that the Bulgarian Academy of Sciences, in cooperation with the Committee on Space Research, the European Community and the Office for Outer Space Affairs, was organizing a colloquium on plasma processes in the near-Earth space: Interball and beyond, to be held in Sofia from 5 to 10 February 2002. Network member States had been invited to participate in and contribute to the colloquium.

99. The Committee emphasized the importance of regional and international cooperation in making the benefits of space technology available to all countries by such cooperative activities as sharing payloads, disseminating information on spin-off benefits, ensuring compatibility of space systems and providing access to launch capabilities at reasonable cost.

### 2. Matters relating to remote sensing of the Earth by satellites, including applications for developing countries and monitoring of the Earth's environment

100. The Committee noted that, in accordance with General Assembly resolution 55/122, the Scientific and Technical Subcommittee had continued its consideration of matters relating to remote sensing of the Earth by satellites. The Committee took note of the discussion of the Subcommittee under this agenda item, as reflected in the report of the Subcommittee (A/AC.105/761, paras. 58-63).

101. The Committee emphasized the importance of remote sensing technology for sustainable development. In that connection, it also emphasized the importance of providing non-discriminatory access to state-of-the-art remote sensing data and to derived information at reasonable cost and in a timely manner.

102. The Committee emphasized the importance of building capacity in the adoption and use of remote sensing technology, in particular to meet the needs of developing countries.

### 3. Use of nuclear power sources in outer space

103. The Committee noted that, in accordance with General Assembly resolution 55/122, the Scientific and Technical Subcommittee had continued its consideration of the item relating to the use of nuclear power sources in outer space. The Committee noted that, in accordance with the four-year work plan adopted by the Subcommittee at its thirty-fifth session (A/AC.105/697 and Corr.1, annex III, appendix), the Subcommittee had reviewed national and international processes, proposals and standards and national working papers relevant to the launch and peaceful uses of nuclear power sources in outer space. The Committee also noted that the Subcommittee had reconvened the Working Group on the Use of Nuclear Power Sources in Outer Space. The Committee took note of the discussions of the Subcommittee and its Working Group on the Use of Nuclear Power Sources in Outer Space, as reflected in the report of the Subcommittee and in the report of the Working Group (A/AC.105/761, paras. 64-74 and annex III).

104. The Committee noted with appreciation that the Working Group on the Use of Nuclear Power Sources in Outer Space had had an opportunity to conduct informal consultations in parallel with the current session of the Committee to further its work on that important topic.

105. The Committee recalled that the General Assembly had adopted the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, contained in Assembly resolution 47/68 of 14 December 1992. While noting that the Principles provided that

they should be reopened for review and revision by the Committee no later than two years after their adoption, the Committee recalled that, at its fortieth session, it had agreed that the Principles should remain in their current form until amended and that, before amendment, proper consideration should be given to the aims and objectives of the proposed revision.

106. The Committee agreed with the Scientific and Technical Subcommittee that, while a revision of the Principles was not necessary at the current stage, it was important that States making use of nuclear power sources should conduct their activities in full accordance with the Principles (A/AC.105/761, para. 67).

107. The Committee also agreed that the Subcommittee and the Working Group should continue to receive the widest input on matters affecting the use of nuclear power sources in outer space and any contribution related to improving the scope and application of the Principles.

108. The Committee agreed that Member States should continue to be invited to report to the Secretary-General annually with regard to national and international research concerning the safety of space objects with nuclear power sources, that further studies should be conducted on the issue of collision between space debris and orbiting space objects with nuclear power sources on board and that the Subcommittee should be kept informed of the results of such studies.

109. The view was reiterated that the provisions of the Convention on Nuclear Safety[5] should be applied to the use of nuclear power sources in outer space and that the IAEA Safety Fundamentals and Standards for terrestrial reactors should be taken into consideration in the design, construction and licensing of nuclear power sources used in outer space and devices containing such sources. That delegation was also of the view that the analysis of safety measures for nuclear power sources in outer space should be particularly rigorous for the two phases of greater risk to the environment, namely, their launching and re-entry into the atmosphere.

### 4. Means and mechanisms for strengthening inter-agency cooperation and increasing the use of space applications and services within and among entities of the United Nations system

110. The Committee noted that, in accordance with General Assembly resolution 55/122, the Scientific and Technical Subcommittee had begun consideration of an item on means and mechanisms for strengthening inter-agency cooperation and increasing the use of space applications and services within and among entities of the United Nations system. The Committee noted that, in accordance with the three-year work plan adopted by the Subcommittee at its thirty-seventh session (A/AC.105/736, annex II, para. 40), the Subcommittee had analysed the current levels of usage of space applications and services for increasing the effectiveness, efficiency and coordination of the operations of United Nations entities with regard to space activities. The Committee took note of the discussion of the Subcommittee on this item, as reflected in the report of the Subcommittee (A/AC.105/761, paras. 75-83).

111. The view was expressed that, while discussing barriers to the greater use of space applications and services within the United Nations system under the second year of the work plan, in 2002, difficulties experienced by the satellite data user community, such as the exorbitant cost of data, lack of technical know-how and of equipment to process the data and use the products thereof and inappropriate spatial resolution, should be considered in detail by the Subcommittee in order to find reasonable solutions to those problems.

112. The Committee stressed the need to ensure continuous and effective consultations and coordination in the field of outer space activities among organizations of the United Nations system and to avoid duplication of activities.

113. The Chairman of the Committee expressed his concern that while the United Nations had organized a series of global conferences to identify priorities for the twenty-first century to promote human development and had adopted many recommendations for action by the international community, none of the conferences had taken into account the valuable contributions that space science and technology could make to achieving their objectives. In that regard, the Committee agreed that the Chairman should send a letter to the Secretary-General, bringing to his attention the need to consider the contributions of space science

and technology to a greater extent in major United Nations conferences, taking into particular account the needs of developing countries.

114. The Committee noted with satisfaction that the Inter-Agency Meeting on Outer Space Activities had held its twenty-first session in Vienna from 22 to 24 January 2001 and that the report on its work (A/AC.105/756) and the report of the Secretary-General on coordination of outer space activities within the United Nations system: programme of work for 2001 and 2002 and future years (A/AC.105/757) were before the Committee.

115. The Committee noted that the next session of the Inter-Agency Meeting was scheduled to be held in Rome from 23 to 25 January 2002 and would be hosted by the Food and Agriculture Organization of the United Nations.

### 5. Implementation of an integrated, space-based global natural disaster management system

116. The Committee noted that, in accordance with General Assembly resolution 55/122, the Scientific and Technical Subcommittee had begun consideration of an item on implementation of an integrated, space-based global natural disaster management system. The Committee noted that, in accordance with the three-year work plan adopted by the Subcommittee at its thirty-seventh session (A/AC.105/736, annex II, para. 41), the Subcommittee had reviewed the types of natural disaster being faced and the extent of the application of space-based services being utilized for their mitigation. The Committee took note of the discussion of the Subcommittee on this item, as reflected in the report of the Subcommittee (A/AC.105/761, paras. 84-113).

117. The Committee requested that communications satellite operators be invited to give presentations during the second year of the work plan, to be considered by the Subcommittee at its thirty-ninth session, in 2002, on the disaster management component of their activities.

### 6. Space debris

118. The Committee noted that, in accordance with General Assembly resolution 55/122, the Scientific and Technical Subcommittee had continued its consideration, on a priority basis, of the item on space debris as a single issue/item for discussion. The Committee took note of the discussion of the Subcommittee on space debris, as reflected in the report of the Subcommittee (A/AC.105/761, paras. 114-135).

119. The Committee agreed with the Scientific and Technical Subcommittee that consideration of space debris was important, that international cooperation was needed to expand appropriate and affordable strategies to minimize the potential impact of space debris on future space missions and that Member States should pay more attention to the problem of collisions of space objects, including those with nuclear power sources on board, with space debris and to other aspects of space debris (A/AC.105/761, paras. 126 and 127), in accordance with General Assembly resolution 55/122.

120. The Committee agreed with the Scientific and Technical Subcommittee that the Subcommittee, starting with its thirty-ninth session, in 2002, should consider space debris according to the multi-year work plan adopted by the Subcommittee at its thirty-eighth session (A/AC.105/761, para. 130).

121. The Committee noted with satisfaction that, at the invitation of the Scientific and Technical Subcommittee, a representative of the Inter-Agency Space Debris Coordination Committee (IADC) had made a technical presentation on its activities and its views on reducing space debris from launch vehicles. The Committee also noted that IADC should play a substantive role in the deliberations of the Subcommittee under its new multi-year work plan.

122. The Committee noted that the recommended practice of re-orbiting satellites before the end of their operational life had not been universally applied and suggested that updated information on the state of application of that practice could be provided by the European Space Operations Centre of ESA at the thirty-ninth session of the Subcommittee. The view was expressed that that information would also reveal the reasons for the situation and whether it might be advisable to provide more detailed technical assistance to those agencies which found it difficult to comply with the recommendation, given the complexity of re-orbiting satellites into safe disposal orbits.

123. The view was expressed that mitigation of space debris was also complicated by the fact that there was no official information available on which satellites

were active and which had already come to the end of their active lives. In the view of that delegation, only launching States could designate a specific object officially inactive and they should be encouraged to announce the change of the status of their objects under the provisions of the Convention on Registration of Objects Launched into Outer Space (the "Registration Convention", General Assembly resolution 3235 (XXIX), annex).

124. The view was also expressed that scientific and technical aspects of space debris were closely interrelated with political and legal aspects. That delegation expressed the view that it was not feasible to solve all scientific and technical problems without discussing at least some of the political and legal issues.

### 7. Examination of the physical nature and technical attributes of the geostationary orbit and of its utilization and applications, including, inter alia, in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries

125. The Committee noted that, in accordance with General Assembly resolution 55/122, the Subcommittee had continued its consideration of the item on the geostationary orbit and space communications as a single issue/item for discussion. The Committee took note of the discussion of the Subcommittee under this agenda item, as reflected in the report of the Subcommittee (A/AC.105/761, paras. 136-144).

126. The Committee agreed on the following statement: "The geostationary orbit, characterized by its special properties, is part of outer space." The Committee considered that that agreement would facilitate possible future discussion of the geostationary orbit by the Scientific and Technical Subcommittee, which could then focus on the possible evolution of scientific knowledge and measures to increase the benefits of the geostationary orbit for all countries, in particular developing countries.

### 8. Government and private activities to promote education in space science and engineering

127. The Committee noted that, in accordance with General Assembly resolution 55/122, the Subcommittee had considered an item on government and private activities to promote education in space science and engineering as a single issue/item for discussion. The Committee took note of the discussion of the Subcommittee under this agenda item, as reflected in the report of the Subcommittee (A/AC.105/761, paras. 145-151).

128. The view was expressed that the Subcommittee might wish to consider addressing the item periodically in view of its importance, although it would not be possible to have the item included annually in view of the full agenda of the Subcommittee.

### 9. Draft provisional agenda for the thirty-ninth session of the Scientific and Technical Subcommittee

129. The Committee noted that, in accordance with General Assembly resolution 55/122, the Scientific and Technical Subcommittee had endorsed the recommendations of its Working Group of the Whole concerning the draft provisional agenda for the thirty-ninth session of the Subcommittee (A/AC.105/761, paras. 152 and 153).

130. The Committee endorsed the recommendation of the Scientific and Technical Subcommittee that the Committee on Space Research and IAF, in liaison with member States, should be invited to arrange a symposium on the theme "Remote sensing for substantive water management in arid and semi-arid countries" with as wide a participation as possible, to be held during the first week of the thirty-ninth session of the Subcommittee (A/AC.105/761, annex II, para. 21).

131. The Committee endorsed the recommendation of the Scientific and Technical Subcommittee that the annual industry symposium should focus on the promising area of very high resolution remote sensing and its impact on operational applications and should discuss the new space market situation (A/AC.105/761, annex II, para. 22).

132. The view was expressed that the increase in the number of special presentations made to the Subcommittee concerning a wide variety of topics was welcome, as it served to provide an increased technical content to deliberations.

133. The Committee agreed upon the following draft provisional agenda for the thirty-ninth session of the Scientific and Technical Subcommittee:

1. General exchange of views and introduction to reports submitted on national activities.

2. United Nations Programme on Space Applications.

3. Implementation of the recommendations of the Third United Nations Conference on the Exploitation and Peaceful Uses of Outer Space (UNISPACE III).

4. Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment.

5. Items to be considered under work plans:

   (a) Use of nuclear power sources in outer space;
   (Third year of the work plan: preparation of a report that provides the information to the Subcommittee.);[6]

   (b) Means of and mechanisms for strengthening inter-agency cooperation and increasing the use of space applications and services within and among entities of the United Nations system;

   (Second year of the work plan: an identification of the barriers to greater use of space applications and services within the United Nations system and an examination of specific means and mechanisms to eliminate those barriers.)[7]

   (c) Implementation of an integrated, space-based global natural disaster management system;
   (Second year of the work plan: review of existing and proposed satellite and data distribution systems that can be used operationally for disaster management and identification of gaps in those systems. (The review could also extend to pilot projects undertaken by various space agencies, international organizations and Governments through technical presentations. The Committee on Earth Observation Satellites and others could be invited to make presentations on their efforts and studies.))[8]

   (d) Space debris.
   (First year of the work plan: invitation to the Inter-Agency Space Debris Coordination Committee to present its proposed debris mitigation standards and discussion of space debris impact hazards and shielding.)[9]

6. Single issues/items for discussion:

   (a) Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries;

   (b) International cooperation in limiting obtrusive space advertising that could interfere with astronomical observations;

   (c) Mobilization of financial resources to develop capacity in space science and technology applications.

7. Draft provisional agenda for the fortieth session of the Scientific and Technical Subcommittee, including identification of subjects to be dealt with as single issues/items for discussion or under multi-year work plans.

8. Report to the Committee on the Peaceful Uses of Outer Space.

## D. Report of the Legal Subcommittee on its fortieth session

134. The Committee took note with appreciation of the report of the Legal Subcommittee on its fortieth session (A/AC.105/763 and Corr.1), which contained the results of its deliberations on the items assigned to it by the General Assembly in resolution 55/122.

135. The Committee welcomed the progress of deliberations within the Legal Subcommittee, which

indicated a revitalization of the work of that body following the revision of its agenda structure in 1999.

136. The Committee's attention was drawn to the fact that 2001 marked the fifteenth anniversary of the adoption of the Principles Relating to Remote Sensing of the Earth from Outer Space and the fifth anniversary of the adoption of the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries (General Assembly resolution 51/122, annex). The view was expressed that the latter instrument was particularly noteworthy as the principles contained therein elaborated on the basic concept of article I of the Outer Space Treaty, and had made a lasting contribution to international space cooperation by establishing two basic considerations: (a) States were free to determine all aspects of their international cooperation, whether bilateral or multilateral and whether commercial or non-commercial; and (b) States should choose the most effective and appropriate mode of cooperation in order to allocate resources efficiently.

137. The Committee was informed that the Intergovernmental Agreement for the International Space Station (ISS) had entered into force on 27 March 2001, in accordance with article 25 of that Agreement. In addition, as called for in the Agreement, the ISS partner States had agreed to a crew code of conduct, which covered such topics as the chain of command on-orbit, the relationship between ground and on-orbit management, standards for work and activities in space and authority of the commander.

### 1. Status and application of the five United Nations treaties on outer space

138. The Committee noted that, in accordance with General Assembly resolution 55/122, the Legal Subcommittee had considered the status and application of the five United Nations treaties on outer space as a regular item.

139. The Committee noted that the Legal Subcommittee had been provided by its Chairman with a report of the current status of signatures and ratifications of the international treaties governing the use of outer space, in accordance with information provided to the Secretariat by the depositaries of those treaties.

140. The Committee noted that some delegations had informed the Legal Subcommittee of the current status of and further intended actions concerning their accession to the five international legal instruments governing outer space. Similar information was submitted to the Committee.

141. The Committee was informed of a symposium on space law that was planned to be held in Nigeria with the support of the Institute of Air and Space Law, McGill University, Canada, the International Institute of Space Law and the Greek Society of Aerospace Law. The goals of the symposium would include providing a basis for governmental action in the ratification of some of the United Nations treaties on outer space and raising the level of national awareness as to that country's obligations in maintaining outer space for peaceful purposes.

142. The view was expressed that States should review the manner in which they were implementing the international space treaties that they had accepted. That delegation was of the view that there was little point in States' adhering to the treaties if they were not able to implement their obligations through effective national action, such as legislation and appropriate licensing regimes.

143. The view was expressed that, notwithstanding the recommendations of the General Assembly and the competent work done by the Office for Outer Space Affairs, additional efforts could be made to promote the importance of broad acceptance of and compliance with international space law. Therefore that delegation expressed its support for the establishment of a working group under this item and expressed the view that it would be appropriate to include within its work an examination of how States were implementing the space treaties at the national level and in their international relations. Consideration could also be given to the implementation of the sets of principles adopted by the Assembly on remote sensing, satellite broadcasting, international cooperation and the use of nuclear power sources in outer space.

144. The view was expressed that the mandate of the Legal Subcommittee and terms of reference of the working group for this item would also enable a useful discussion of problems such as the impact of the development of science and technology on space law, commercialization of space activities and its consequences for space law and the legal status of newly

emerging actors engaging in space activities. That delegation also expressed the hope that a discussion on the promotion of space law would facilitate its further progressive development to adequately reflect and regulate the needs arising from new achievements in space activity.

145. Some delegations expressed the view that the work of the working group to be established under this item should be limited to a specific time period. Other delegations expressed the view that unduly limiting the period of time available to the working group would result in the frustration of its purpose.

146. The Committee agreed that the duration of the working group would be limited to three years, to be convened from 2002 to 2004, after which the Committee would decide whether to reconvene it in the following years.

### 2. Information on the activities of international organizations relating to space law

147. The Committee noted that, in accordance with General Assembly resolution 55/122, the Legal Subcommittee had considered information on the activities of international organizations relating to space law as a regular item.

148. The Committee noted with satisfaction that the Legal Subcommittee had been provided with reports from various invited international organizations on their activities relating to space law and endorsed the agreement by the Legal Subcommittee that the Secretariat should extend similar invitations to appropriate international organizations for the forty-first session of the Subcommittee, in 2002.

149. The view was expressed that the consideration of this regular item represented an innovation that had opened the door for an increased interest in the work of the Subcommittee of international organizations engaged in space activities and their active contribution to the progressive development of space law.

150. The view was expressed that the report presented by COMEST of the United Nations Educational, Scientific and Cultural Organization (UNESCO) to the Legal Subcommittee was an effective document that could form the basis for a valuable discussion. While that delegation reserved its position on some issues, such as the possible initiative to establish a high authority for outer space, it supported the continuation of consideration of the contents of the report in liaison with UNESCO. Other delegations noted that the COMEST report was not always to the point and contained a number of misleading statements.

151. The view was expressed that the possibility of establishing an international space authority deserved consideration. That delegation was of the opinion that such a body could operate in the interests of humanity without eroding the independence of States with regard to their space-related activities.

### 3. Matters relating to the definition and delimitation of outer space and the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union

152. The Committee noted that, in accordance with General Assembly resolution 55/122, the Legal Subcommittee had continued to consider as a regular item matters relating to: (a) the definition and delimitation of outer space; and (b) the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union.

153. The Committee noted that the Working Group under this item had been re-established under the chairmanship of Socorro Flores Liera (Mexico) to consider only matters relating to the definition and delimitation of outer space, in accordance with the agreement reached at the thirty-ninth session of the Legal Subcommittee and endorsed by the Committee at its forty-third session.

154. The view was reiterated that with the agreement reached on the question of the character and utilization of the geostationary orbit, the working group on this item could now concentrate fully on the discussion on aerospace objects with the aim of drafting a similar set of conclusions resulting from the present stage of deliberations on that particular topic. A further discussion on the subject could then be postponed until a later occasion.

155. Some delegations expressed the view that a definition and delimitation of outer space was indis-

pensable for Member States to have a legal basis for the application of the treaties and principles governing outer space and the regulation of their national territories. The view was expressed that such a definition had become more pertinent in view of innovations in the field of space transportation and rocket launch technologies and the fact that only a relatively small number of Member States had replied to the questionnaire on aerospace objects should not impede progress in the consideration of the item.

156. The view was expressed that the time might have come for the Scientific and Technical Subcommittee to be given once again the responsibility of considering the matter of the definition and delimitation of outer space on scientific and technical grounds, taking into account technological developments that had occurred in the past decade.

157. Some delegations expressed the view that the brief historical summary on the consideration in the Legal Subcommittee of the question on the definition and delimitation of outer space, which the working group had requested the Secretariat to prepare, would be most useful for the continued discussions in 2002, as it would assist in identifying positions that had developed over the years under the item and reduce the likelihood of a repetition of previous discussions. Some delegations also expressed their support for the work carried out by the working group on the item and felt that the agreement of the working group in that regard should be appropriately endorsed by the Committee.

158. The view was expressed that there existed no concrete need for the creation of a boundary between air and space. Consequently, the continuation of a discussion to achieve such an end was without practical justification and of little value. That delegation also felt that the questionnaire on aerospace objects would in no way facilitate progress in that regard. Therefore, that delegation did not subscribe to the conclusions of the report of the working group, and was of the view that the best manner in which to proceed would be to seek a suspension of the consideration of the topic in a manner similar to that achieved in the case of the geostationary orbit.

159. The view was expressed that the geostationary orbit constituted an integral part of outer space and was governed by the fundamental law of the Outer Space Treaty.

160. Some delegations reiterated the view that the geostationary orbit was a limited natural resource with sui generis characteristics that risked saturation, and that its utilization should be based on the principle of rational and equitable access for all countries, taking into account the special needs of developing countries and the geographical situation of particular countries.

### 4. Review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space

161. The Committee noted that, in accordance with General Assembly resolution 55/122, the Legal Subcommittee had continued its consideration of the review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space as a single issue/item for discussion.

162. The Committee noted that an exchange of views had taken place in the Legal Subcommittee on the review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, as reflected in its report (A/AC.105/763 and Corr.1, paras. 68-70), in which reference was made to the work currently being undertaken by the Scientific and Technical Subcommittee under the item entitled "Use of nuclear power sources in outer space".

### 5. Consideration of the draft convention of the International Institute for the Unification of Private Law (Unidroit) on international interests in mobile equipment and the preliminary draft protocol thereto on matters specific to space property

163. The Committee noted that, in accordance with General Assembly resolution 55/122, the Legal Subcommittee had considered a new single issue/item for discussion entitled "Consideration of the draft convention of the International Institute for the Unification of Private Law (Unidroit) on international interests in mobile equipment and the preliminary draft protocol thereto on matters specific to space property".

164. The view was expressed that the reports on the topic by the Secretariat and the secretariat of Unidroit, mentioned in paragraph 73 of the report of the Legal Subcommittee (A/AC.105/763 and Corr.1), were highly useful and had contributed to the positive results achieved by the Subcommittee in its deliberations.

165. The Committee agreed that the draft Unidroit convention and protocol on space property represented an important initiative, in particular in the light of the continuing increase in the participation of private entities in space activities, and deserved the full attention of member States.

166. Some delegations expressed the view that the Legal Subcommittee was the primary body competent to deal with legal issues relating to activities in outer space and that the consideration of the draft Unidroit convention and protocol on space property fell squarely within the scope of its mandate.

167. The view was expressed that the Legal Subcommittee, in view of its existing mandate, should not seek to attempt to substitute itself for the mechanisms of Unidroit on the substance of the draft Unidroit convention and protocol on space property, in particular in view of the preliminary nature of the latter text. Nonetheless, the Legal Subcommittee should closely follow developments in the protocol and ensure its compatibility with existing international space law.

168. The view was expressed that the development of the protocol needed to be undertaken within the framework of and not contrary to treaties and obligations under existing international space law. That delegation was also of the view that the protocol was still in a preliminary stage and that attempting to establish time limits for its development and finalization would not be appropriate.

169. Some delegations reiterated the view that a number of substantive issues relating to the draft Unidroit convention and preliminary draft protocol on space property required further consideration and clarification.

170. The view was expressed that the establishment of the ad hoc consultative mechanism to facilitate the progression of the work of the Legal Subcommittee on the item was a welcome initiative that that delegation hoped might serve as a valuable example for the organization of future work of the Subcommittee on similarly complex matters.

171. The Committee agreed that, in order to assist the Legal Subcommittee in its consideration of the topic, the Secretariat should be requested to collaborate with the secretariat of Unidroit in the preparation of copies of the draft Unidroit convention and preliminary draft protocol on space property in all of the official languages of the United Nations.

172. The Committee endorsed the agreement of the Legal Subcommittee concerning the establishment of an ad hoc consultative mechanism to review the issues relating to this item, as reflected in paragraph 94 of the report of the Subcommittee (A/AC.105/763 and Corr.1). Pursuant to that agreement, a series of informal consultations were conducted during the forty-fourth session of the Committee, under the guidance of the Chairman of the Legal Subcommittee, Vladimír Kopal (Czech Republic).

173. On the basis of the above-mentioned informal consultations, the Committee agreed that the next step in the consultative process on the topic would be a working meeting under the aegis of the Legal Subcommittee to be hosted by the Government of France in Paris on 10 and 11 September 2001. It was further agreed that the Secretariat would act as a focal point to assist with the transmission of invitations to all States members of the Committee, in liaison with the Government of France, ESA and Unidroit, and with the provision of secretariat services at the working meeting. In addition, it was agreed that ESA, Unidroit and ITU would be invited to participate in the working meeting and that the meeting would be conducted in English only, without interpretation or translation facilities. Finally, in view of an invitation extended by the Government of Italy, it was agreed that, if necessary, a further working meeting could be convened in Rome in early 2002 under similar conditions.

174. The Committee endorsed the agreement of the Legal Subcommittee that this item should be retained on the agenda of the Legal Subcommittee for its forty-first session, in 2002.

### 6. Review of the concept of the "launching State"

175. The Committee noted that, in accordance with General Assembly resolution 55/122, the Legal Subcommittee had continued its review of the concept of the "launching State" in accordance with the three-year work plan agreed upon by the Committee at its forty-second session.

176. The Committee noted that the Legal Subcommittee had, in accordance with its three-year work plan, re-established its Working Group on this item

under the chairmanship of Kai-Uwe Schrogl (Germany) to consider the item.

177. The Committee welcomed the progress that had been achieved through the special presentations and resulting discussions that had taken place within the Legal Subcommittee and its Working Group on the item.

178. The view was expressed that, despite the progress made, much work remained to be done if the Legal Subcommittee was to fulfil its original aims, namely, to ascertain whether the definition of the "launching State" in the Convention on International Liability for Damage Caused by Space Objects (General Assembly resolution 2777 (XXVI), annex) and the Registration Convention remained sufficient to cover all space activities and what steps could be taken to improve application of the concept in the context of new developments in space transportation.

179. Some delegations expressed the view that a valuable contribution to the deliberations of the Subcommittee and its working group on the topic in 2002 would be made by the document to be prepared by the Secretariat, which would contain a synthesis of state practice in applying the concept of the "launching State"; questions regarding the application of the concept of the "launching State" arising from state practice and from new developments in space activities; and elements that could be included in national space legislation and licensing regimes.

180. The view was expressed that the discussions under the item had revealed a lack of universality of application of the concept of the "launching State". That delegation believed that it would be preferable to achieve a single common understanding of the concept and its application. In that delegation's view, the best way in which to achieve that would be within the context of the development of a universal comprehensive convention on international space law.

181. The Committee recommended that the Legal Subcommittee continue its consideration of this item at its forty-first session, in 2002, in accordance with the programme for the third year of its three-year work plan.

### 7. Draft provisional agenda for the forty-first session of the Legal Subcommittee

182. The Committee noted that, in accordance with General Assembly resolution 55/122, the Legal Subcommittee had considered an item entitled "Proposals to the Committee on the Peaceful Uses of Outer Space for new items to be considered by the Legal Subcommittee at its forty-first session".

183. The Committee noted that a substantial exchange of views had taken place in the Legal Subcommittee on numerous proposals by member States for new agenda items and that agreement had been reached on a proposal to the Committee for the agenda of the forty-first session of the Subcommittee, in 2002, as reflected in its report (A/AC.105/763 and Corr.1, paras. 107-123).

184. Some delegations expressed the view that, despite its new agenda structure, the fact that the Legal Subcommittee had not been able to reach agreement on any new items to be included on its agenda for 2002 was a matter for some concern. The view was expressed that the report of the European Centre for Space Law on the results of its international study on the legal aspects of space debris, which was expected to be presented to the Legal Subcommittee at its forty-first session, in 2002, nonetheless represented a positive step, and that delegation looked forward to the opportunity of discussing those results.

185. Some delegations reiterated the view that an item should be included in the agenda of the Legal Subcommittee for 2002 on a review of existing norms of international law applicable to space debris, as had been proposed by the Czech Republic and Greece. Those delegations were of the view that the completion by the Scientific and Technical Subcommittee of its Technical Report on Space Debris (the Rex Report) provided a sufficient basis for such a review of existing international legal norms. In addition, while welcoming the efforts of the Scientific and Technical Subcommittee in the adoption of a new multi-year work plan on the subject of space debris, those delegations expressed the view that the proposed review in the Legal Subcommittee would in no way hinder such efforts. On the contrary, the scientific and technical aspects of space debris were closely interrelated with political and legal aspects and it would not be feasible to attempt to resolve all scientific and

technical issues without simultaneous consideration of those of a political and legal nature.

186. However, the view was expressed that, given the substantial progress made in the Scientific and Technical Subcommittee on achieving a common understanding of space debris mitigation practices, the focus of work on the topic should remain in that body. That delegation remained of the view that it would not be productive to address legal aspects of space debris at the present time.

187. Some delegations reiterated the view that a discussion of the appropriateness and desirability of drafting a universal comprehensive convention on international space law, as had been proposed by Bulgaria, China, Greece and the Russian Federation, should be included on the agenda of the Legal Subcommittee for 2002. While acknowledging that the drafting of such a convention could be a lengthy and complex exercise, those delegations were of the view that the preliminary discussion envisaged by the proposal was both warranted and timely and should be initiated as soon as possible within the Legal Subcommittee, without necessarily prejudging the outcome of such discussion.

188. However, the view was expressed that there was no need for the development of a universal comprehensive convention on space law, thereby altering the status quo of the existing treaties, since all of them possessed amendment clauses by which their provisions could be reviewed.

189. The view was expressed that a single issue/item for discussion should be included in the agenda of the forty-first session of Legal Subcommittee on international cooperation in limiting obtrusive commercial space advertising that could interfere with astronomical observations, as had been proposed by the delegation of the United States. The purpose of the item would be to have a one-year discussion on the legal aspects of the problem in the light of the work that would be done by the Scientific and Technical Subcommittee at its thirty-ninth session, in 2002, and other relevant international scientific organizations, as well as whether the topic deserved further attention in the Legal Subcommittee.

190. The view was expressed that obtrusive commercial space advertising was only a single aspect of the much broader issue of protecting the space environment for astronomical observation. That delegation was therefore of the view that any future consideration in the Legal Subcommittee should be sufficiently broad to cover all of the aspects of the issue, such as the question of space debris.

191. On the basis of the proposals submitted by the Subcommittee and the discussions reflected in paragraphs 182-190 above, the Committee agreed on the following draft provisional agenda for the forty-first session of the Legal Subcommittee, in 2002:

(i) *Regular items*

1. Opening of the session and adoption of the agenda.
2. Statement by the Chairman.
3. General exchange of views.
4. Status and application of the five United Nations treaties on outer space.
5. Information on the activities of international organizations relating to space law.
6. Matters relating to:
   (a) The definition and delimitation of outer space;
   (b) The character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union.

(ii) *Single issues/items for discussion*

7. Review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space.
8. Consideration of the draft convention of the International Institute for the Unification of Private Law (Unidroit) on international interests in mobile equipment and the preliminary draft

protocol thereto on matters specific to space property.

(iii) *Agenda items considered under work plans*

9. Review of the concept of the "launching State".

(iv) *New items*

10. Proposals to the Committee on the Peaceful Uses of Outer Space for new items to be considered by the Legal Subcommittee at its forty-second session.

## E. Spin-off benefits of space technology: review of current status

192. In accordance with General Assembly resolution 55/122, the Committee resumed its consideration of the item entitled "Spin-off benefits of space technology: review of current status".

193. The publication *Spinoff 2000*, submitted by the National Aeronautics and Space Administration (NASA) of the United States, was made available to the Committee (see A/AC.105/764).

194. The Committee agreed that spin-offs of space technology were yielding many substantial benefits. It took note of the efforts of many countries to promote such spin-off benefits and to disseminate information on such activities to other interested countries. The Committee also noted that utilization of space technology had become an efficient path to advance economic development, especially in developing countries.

195. The Committee noted that spin-off technologies had resulted in the development or improvement of many products and processes. In the field of human health, the Committee noted, in particular, a new generation of robotic arms that could assist surgeons in non-invasive, endoscopic procedures, applications of remote sensing to the control of diseases such as haemorrhagic fever, malaria, dengue fever and Chagas' disease and the development of anaesthesia and respirator apparatuses with control automation technology.

196. The Committee also noted environmental benefits of spin-off technologies, including a water treatment system, developed for the ISS but also applied on the ground, that efficiently purified waste products from laundry, showers, hygiene water and humidity condensation.

197. The Committee also noted applications of space technology in the field of public safety, including the development of a self-contained breathing apparatus that improved the safety of firefighters and those working with hazardous materials, as well as a mobile firefighting pump for skyscrapers that used liquid-propellant rocket engine turbo-pump technology to propel water as far as 400 metres.

198. The Committee also noted that, using techniques developed for rocket engine design, a hydraulic matrix regulator had been developed as the core part of auto-speed-control systems, applied, for instance, in vehicles and in the petrochemical and power industries.

199. The Committee took note of a report by the Office of Commercial Space Transportation of the United States Federal Aviation Administration, which had found that in 1999 the United States launch industry had been responsible for $61.2 billion in economic activity, $16.4 billion in employee earnings and nearly half a million jobs.

200. The Committee noted with satisfaction that the Global Disaster Information Network Conference 2002 would be held in Rome from 17 to 21 June on the theme "Information systems and telecommunications in support of health, survival and rehabilitation: from need analysis to technological development and use—human beings first".

201. The view was expressed that developing countries, with few exceptions, had been passive onlookers or mere users of technology that had been developed and provided by developed countries. In the view of that delegation, it was imperative that efforts be further intensified to enable developing countries to participate in technology development and to increase their share in the spin-offs to a reasonable level, especially through a greater participation in international cooperative programmes.

202. The Committee recommended that it should continue its consideration of the item at its forty-fifth session, in 2002.

## F. Enlargement of the membership of the Committee

203. In accordance with General Assembly resolution 55/122, the Committee considered the enlargement of its membership.

204. The Committee noted that the General Assembly, in paragraph 39 of resolution 55/122, had taken note of the interest of certain countries, including Saudi Arabia and Slovakia, that had submitted requests to become members of the Committee, as well as the requests of those countries which had been sharing seats on a rotating basis, namely, Cuba, Malaysia, Peru and the Republic of Korea, to have that practice terminated and to become full members. The Committee also noted that, pursuant to paragraph 40 of the resolution, its Chairman had held informal consultations on the matter on 16 February 2001, during the thirty-eighth session of the Scientific and Technical Subcommittee.

205. The Committee noted with satisfaction that, as a result of the informal consultations, members of the Committee had reached consensus agreement that those countries specifically mentioned in paragraph 39 of the resolution should become full members of the Committee. The Committee had before it a document (A/AC.105/L.230) reflecting the above agreement and containing a proposal made by its Chairman concerning the enlargement of its membership in 2001 and the consideration of its membership after 2001.

206. The Committee endorsed the proposal of the Chairman. Concerning the enlargement of its membership in 2001, the Committee agreed that the practice of sharing seats on a rotating basis between Cuba and Peru as well as the Republic of Korea and Malaysia should be terminated and that those four countries should become full members. The Committee also agreed that Saudi Arabia and Slovakia should become members of the Committee.

207. The Committee agreed that, after the current enlargement of the Committee, there would be no need to expand its membership further for the next seven years, except in special circumstances meriting consideration before that period had elapsed. The Committee further agreed that each regional group would be responsible for holding consultations among its members that were also members of the Committee, for the purpose of urging them to participate in the work of the Committee and its two subcommittees, and that the regional groups would present a general report to the Committee on the results of their consultations.

208. The view was expressed that there had been continuing absenteeism of some members of the Committee in the work of the Committee and its subsidiary bodies and that that was a matter of concern to the Committee, which should consider the possibility of replacing such members that thus demonstrated their lack of interest in the work of the Committee by other members from the same geographical regions.

209. Some delegations expressed the view that some members of the Committee experienced difficulty in attending the meetings of the Committee and its subsidiary bodies owing to their limited resources and that scheduling meetings of those bodies in such a manner as to avoid meetings of other intergovernmental bodies held at the United Nations Office at Vienna might facilitate the participation of those members.

210. Some delegations expressed the view that consideration should be given to the possibility that, in addition to those countries listed in paragraph 206 above, other countries that had expressed interest in participating in the work of the Committee could become members.

## G. Other matters

### 1. Observer status

211. The Committee noted that three international non-governmental organizations, the European Association for the International Space Year (EURISY), the National Space Society and the Space Generation Advisory Council, had applied for observer status with the Committee and that the related correspondence and statutes of those non-governmental organizations had been circulated during the present session of the Committee (see A/AC.105/2001/CRP.3).

212. The Committee decided to grant permanent observer status to EURISY and the Space Generation Advisory Council on the understanding that, in accordance with the agreement of the Committee at its thirty-third session concerning observer status for non-governmental organizations, those organizations would apply for consultative status with the Economic and Social Council. The Committee decided to grant per-

manent observer status to the National Space Society, which had consultative status with the Council.

213. The Committee agreed that, should the Economic and Social Council decide that a reference to the United Nations in the name of the Space Generation Advisory Council, which currently had the full title "United Nations Programme on Space Applications Space Generation Advisory Council", was inappropriate, the Secretariat should transmit that decision to the Committee for necessary action. The Committee further agreed that the Office of Legal Affairs of the Secretariat should be consulted on the issue.

214. Some delegations expressed the view that all non-governmental organizations that had observer status in the Committee should be invited to reaffirm their continued participation and to indicate their priority issues of interest in the work of the Committee and its subsidiary bodies. Those delegations were of the view that such an invitation might be sent in connection with the questionnaire on implementation of the recommendations of UNISPACE III, which would be circulated among organizations having observer status with the Committee (see para. 61 above).

215. The view was expressed that it was not within the mandate of the Committee to grant observer status in the Committee to national non-governmental organizations, private law associations and other similar entities before those organizations had obtained consultative status with the Economic and Social Council. Therefore, that delegation declared that it could not accept and recognize as legally binding the decisions taken by the Committee referred to in paragraphs 212 and 213 above and reserved its right to raise the question before the Special Political and Decolonization Committee (Fourth Committee) of the General Assembly in order to protect and preserve the intergovernmental and political nature of the Committee on the Peaceful Uses of Outer Space.

### 2. New agenda item of the Committee

216. The Committee had before it a proposal by Austria, Canada, Chile, Colombia, Ecuador, Nigeria, Peru, Turkey and the United States for the inclusion of a new item entitled "Space and society" in the agenda of the Committee (A/AC.105/L.229 and Add.1).

217. The Committee agreed that the item should be included on the agenda of the Committee at its forty-fifth and forty-sixth sessions, after which the Committee would decide whether or not to retain the item on its agenda in subsequent years.

218. The Committee agreed that the content of a proposal for an agenda item on "Government and private activities to promote education in space science and engineering", proposed for periodic consideration by the Scientific and Technical Subcommittee, could be merged within discussion under the new item.

219. The view was expressed that the new agenda item, "Space and society", would complement the existing item "Spin-off benefits of space technology" and that, among other things, it would enable member States to share information on their efforts to demonstrate to the general public how space activities such as remote sensing and telecommunications could enrich their daily lives.

### 3. Report on the activities of the International Satellite System for Search and Rescue (COSPAS-SARSAT)

220. The Committee had before it a working paper submitted by Canada, France and the United States concerning the International Satellite System for Search and Rescue (COSPAS-SARSAT) (A/AC.105/L.235 and Corr.1). The Committee agreed that a report on the activities of COSPAS-SARSAT should be considered annually by the Committee, as a part of its consideration of the United Nations Programme on Space Applications under the agenda item entitled "Report of the Scientific and Technical Subcommittee". The Committee also agreed that member States should report on their activities regarding COSPAS-SARSAT.

### 4. Proposed programme budget for the biennium 2002-2003

221. The Committee had before it section 6, "Peaceful uses of outer space", of the proposed programme budget for the biennium 2002-2003 (A/56/6, Sect. 6). The Committee was informed that the proposed budget for that section had been reviewed by the Advisory Committee on Administrative and Budgetary Questions. The Committee was also informed that its comments, if any, would be forwarded to the Committee for Programme and Coordination.

### 5. Fourth Space Conference of the Americas

222. The Committee noted with satisfaction the information presented on the informal consultations coordinated by the Chilean delegation that had been held with the aim of encouraging preparations and holding of the Fourth Space Conference of the Americas. The Committee noted that Colombia had expressed an interest in hosting the conference, which in principle would be held in the second half of 2002 in Cartagena de Indias, Colombia, and that the Ministry of Foreign Affairs of Colombia would contact the pro tempore secretariat of the Third Space Conference of the Americas in order to take all necessary measures to establish the conference site in Colombia.

223. In the informal consultations, the efficiency of the work carried out by the pro tempore secretariat of the Third Space Conference of the Americas, chaired by Uruguay, had been highlighted.

### 6. Report of the World Commission on the Ethics of Scientific Knowledge and Technology of the United Nations Educational, Scientific and Cultural Organization on the ethics of space policy

224. At the 486th meeting, on 13 June, the delegations of Greece, Mexico, Nigeria and Spain proposed that the Committee invite member States to designate experts to identify which aspects of the report of the World Commission on the Ethics of Scientific Knowledge and Technology (COMEST) of UNESCO on the ethics of space policy might need to be studied and to draft a report on their findings. Informal consultations were held on the proposal and the results were presented to the Committee at its 487th meeting, on 15 June, in a conference room paper (A/AC.105/CRP.11).

225. Based on the agreement reached during the informal consultations, the Committee noted that the presentation by the representatives of COMEST of UNESCO at the fortieth session of the Legal Subcommittee and the ensuing discussion had demonstrated an interest and desire to identify possible elements that needed further clarification. The Committee agreed to invite interested member States to designate experts to identify which aspects of the report of COMEST of UNESCO might need to be studied by the Committee and to draft a report in consultation with other international organizations and in close liaison with COMEST of UNESCO. That would be done with a view to a presentation to the Legal Subcommittee at its forty-second session, in 2003, under the agenda item, "Information on the activities of international organizations relating to space law". The report should contain an analysis of the ethical principles relating to current and future human activities in outer space, within the framework of international space law. In that regard, it should focus on the need for such activities to be conducted for the benefit of all nations.

## H. Schedule of work of the Committee and its subsidiary bodies

226. The Committee agreed on the following tentative timetable for its session and those of its subcommittees in 2002:

| | *Date* | *Location* |
|---|---|---|
| Scientific and Technical Subcommittee | 25 February-8 March | Vienna Vienna |
| Legal Subcommittee | 2-12 April | Vienna |
| Committee on the Peaceful Uses of Outer Space | 5-14 June | Vienna |

*Notes*

[1] Cuba and the Republic of Korea are also members of the Committee and have rotated every two years since 1 January 1995 with Peru and Malaysia, respectively.

[2] *Report of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space, Vienna, 19-30 July 1999* (United Nations publication, Sales No. E.00.I.3), chap. I, resolution 1.

[3] *Official Records of the General Assembly, Fifty-fifth Session, Supplement No. 20* (A/55/20), para. 87.

[4] United Nations publication, Sales No. E.01.I.7.

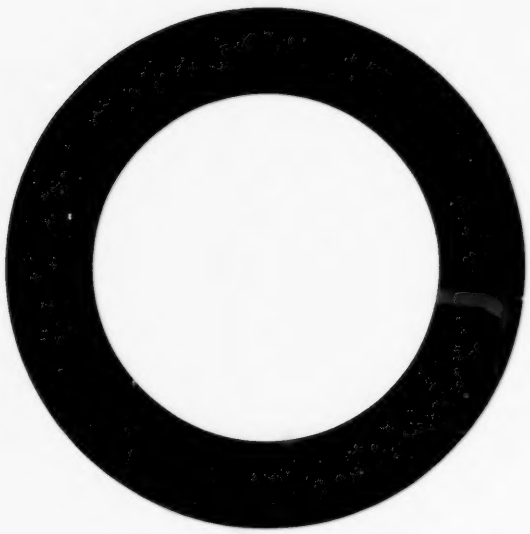
[5] International Atomic Energy Agency, "Convention on Nuclear Safety" (INFCIRC/449, annex.

[6] A/AC.105/697 and Corr.1, annex III, appendix.

[7] A/AC.105/736, annex II, para. 40.

[8] A/AC.105/736, annex II, para. 41.

[9] A/AC.105/761, para. 130.



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Arabic, English, French, Russian and Spanish

# Report of the Committee on the Peaceful Uses of Outer Space

**Corrigendum**

1. **Paragraph 55, recommendation 7**

   *For* Canada (coordinator) *read* Canada (co-coordinator)

2. **Paragraph 133, item 3**

   *For* Exploitation *read* Exploration

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